

## **Magnetic Hard Disk Lubricant Chemistry Probed by NEXAFS**

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The long-term reliability of magnetic hard disk media is highly dependant on preserving the integrity of the applied surface lubricant. In order to increase the information storage capacity of hard disks it is also necessary to reduce the thickness of the protective lubricant. Therefore the development and optimization of hard disk lubricants is of great technological importance in the hard disk industry. Characterizing the lubricant surface chemistry is a key step in this process. We utilized the chemical and surface (10 nm) sensitivity of NEXAFS to probe the lubricant hard coat interface above the surface of magnetic media hard disks. The chemical bond specificity of the NEXAFS technique enables the differentiation of the carbon in the newly developed lubricants from the hard coat and to isolate their chemical interaction.